August 2006
FACT SHEET

DRAFT
Authorization to Discharge under the
National Pollutant Discharge Elimination System
for the
Upper Village of Moenkopi-- Hopi Indian Nation
Wastewater Treatment Plant

NPDES Permit No. AZ0024619

I. Introduction

On December 13, 2005, Moenkopi Developers Corporation submitted an application for a National Pollutant Discharge Elimination System (NPDES) Permit for the proposed discharge from a Wastewater Treatment and Reclamation Facility (WTRF) serving the Upper Village of Moenkopi (UVM) of the Hopi Indian Nation.

Applicant Address:	Moenkopi Developers Corporation Upper Village of Moenkopi P.O. Box 1229 Tuba City, AZ 86045
Applicant Contact:	Daniel Honahni, President/CEO (928) 283-5903
Facility Address:	Upper Village of Moenkopi WTRF Highway 160 Tuba City, AZ 86045

II. Background

The proposed WTRF will be a new municipal facility to be located off of Highway 160, within the Moenkopi District of the Hopi Indian Reservation near Tuba City, Arizona. The facility will serve a population of 900 to 1,850, receiving only domestic sewage with a design flow of 0.185 million gallons per day (MGD). Presently, the UVM operates and maintains over 5 miles of sewage collection conveyance systems that discharge raw wastewater to the Navajo Tribal Utility Authority (NTUA) Tuba City Wastewater Treatment Plant (NPDES Permit No. NN0020290), that is reaching capacity and experiencing compliance problems. Meanwhile, an agreement between UVM and the NTUA specifies a 90-day disconnect should the NTUA find that the Moenkopi discharge is adversely impacting the NTUA's ability to accept and treat additional flow. The UVM has decided to build its own treatment system with financial aid from the U.S. Department of Housing and Urban Development (HUD) and the U.S. Department of Agriculture (USDA). Plant construction is anticipated to be completed at the end of 2006 and discharge to begin in 2007, at which point the UVM would assume full responsibility for the operation and maintenance of the plant.

Based on the permit application, the proposed WTRF will provide secondary treatment, capable of achieving 96% removal efficiencies for biochemical oxygen demand and total suspended solids (BOD and TSS, respectively). It consists of raw screening and vortex grit removal, two (2) parallel activated

slude sequencing batch reactor (SBR) basins, an aerobic sludge digester, effluent flow equalization basin, two (2) tertiary sand filtration units and hypochlorite disinfection. In addition, the SBR system is capable of providing low BOD and nitrogen limits such that the effluent can be used for irrigation, dust control or discharged to the Moenkopi Wash by meeting Arizona Department of Environmental Quality Title 18 Class A+ standards. Final treated effluent will be kept in an effluent storage tank where it can either be piped to local farmers in the Valley for irrigation or off-loaded to tanker trucks to be used for dust control in the Village, with overflow to be discharged from Outfall No. 001 into Moenkopi Wash, a tributary to the Little Colorado River. The applicant estimates the discharge to Outfall No. 001 to occur intermittently for 180-210 days in a year during October through May. Any sampling and monitoring under the proposed permit shall be performed at Outfall No. 001.

The Endangered Species Act (ESA) requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) if their actions could beneficially or adversely affect any threatened and endangered (T&E) species. A biological evaluation prepared by the Hopi Tribe's Department of Natural Resources –Wildlife & Ecosystems Management Program for the proposed UVM facility in September 2004 found that no federally listed T&E species for Coconino County, Arizona were found present nor was there critical habitat to support such species. EPA has determined that effluent released in compliance with this permit will have no effect on any threatened or endangered species so no requirements specific to the protection of endangered species are proposed in the permit. A copy of the permit and fact sheet is being sent to the USFWS for review during the public comment period.

III. Hopi Water Quality Standards

Pursuant to the Water Quality Act of 1987 and the "EPA Policy for the Administration of Environmental Programs on Indian Reservations" (November 8, 1987), EPA will work directly with Indian Tribal governments on a one-to-one basis. This conforms with the Federal Indian Policy of January 24, 1983. The Hopi Tribe has received Treatment as a State (TAS) for Section 106 of the Clean Water Act (CWA) but has not yet received TAS under Section 303. Section 106 grant money is used to develop water quality standards and use designations, which must be approved under Section 303 by EPA Region 9. The Hopi Tribe adopted water quality standards (WQS) for all Hopi waters, inclusive of all waters within the exterior boundaries of the Hopi Indian Reservation, and water situated wholly or partly within or bordering upon the Reservation. These water quality standards, along with a TAS application under Section 303, were submitted to EPA on August 29, 1997, and adopted by the Hopi Tribal Council on October 14, 1997. EPA has public noticed its intent to approve the TAS. The Hopi's adopted WQS are currently under review by EPA. In April 2005, the EPA received a copy of the August 11, 1998 draft revisions to the Hopi WQS.

In the interim, until such time as there are approved water quality standards in place, the Hopi water quality standards will be used on a best professional judgment basis for purposes of developing water quality based-effluent limitations.

IV. Basis of Proposed Permit Requirements

The proposed discharge limitations are based on:

A. Secondary Treatment Regulations contained in 40 CFR Part 133, Sections 133.101 through 133.105, promulgated September 20, 1984, and most recently amended on January 27, 1989. EPA used these regulations and its best professional judgment (BPJ) to develop limits for this facility.

B. Hopi Water Quality Standards, October 1997; most recently revised August 11, 1998

V. Designated Uses for Receiving Water

The designated uses of the receiving waters (Moenkopi Wash, a tributary to the Little Colorado River), as defined by the Hopi WQS (August 1998 revision), are aquatic and wildlife (warm water habitat), full body contact, agricultural livestock watering, agricultural irrigation and groundwater recharge.

VI. Determination of Effluent Limitations, Monitoring, and Reporting Requirements

A. Flow Rates

Under the proposed permit, there is no flow limit but the monthly and daily maximum flows must be monitored and reported. The monitoring frequency is once/month.

B. Five-Day Biochemical Oxygen Demand (BOD_5)

Under the proposed permit, the discharge shall not exceed a weekly average of 45 mg/l and a monthly average of 30 mg/l BOD_5. In addition, the arithmetic means of values, by weight, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of values, by weight, for influent samples collected at approximately the same times during the same period. These limits are required under 40 CFR Section 133.102(a). The limits are designated as 30-day and 7-day averages since the facility is a POTW [40 CFR 122.45(d)].

Under 40 CFR Section 122.45(f), mass limits are required for BOD_5. Based upon the 0.185 MGD flow, the mass limits for BOD_5 are based on the following calculations:

Monthly average

$$\frac{0.185 \text{ MG}}{\text{day}} \times \frac{30 \text{ mg}}{\text{l}} \times \frac{8.345 \text{ lb/MG}}{1 \text{ mg/l}} \times \frac{0.45 \text{ kg}}{\text{lb}} = 21 \text{ kg/day}$$

Weekly average

$$\frac{0.185 \text{ MG}}{\text{day}} \times \frac{45 \text{ mg}}{\text{l}} \times \frac{8.345 \text{ lb/MG}}{1 \text{ mg/l}} \times \frac{0.45 \text{ kg}}{\text{lb}} = 31 \text{ kg/day}$$

The monitoring frequency is once/month.

C. Total Suspended Solids (TSS)

Under the proposed permit, the discharge shall not exceed a weekly average of 45 mg/l and a monthly average of 30 mg/l TSS. Similar to BOD_5, the arithmetic means of values of TSS, by weight, for effluent samples collected in a period of 30 consecutive calendar days shall not exceed 15 percent of the arithmetic mean of values, by weight, for influent samples collected at approximately the same times during the same period. These limitations are consistent with 40 CFR Parts 133.101(f), 133.102(b) and 133.103(c). Mass limit requirements in accordance with 40 CFR 122.45(f) have also been proposed and are based upon the same calculation shown above for BOD_5. The weekly average is 31

kg/day and the monthly average is 21 kg/day. The monitoring frequency is once per month. Sampling and monitoring shall be performed prior to chlorination.

D. *Escherichia coli (E. coli)*

In the proposed permit, the monthly geometric mean of *E. coli* bacteria shall not exceed 130/100 ml based on a minimum of not less than five samples taken over a maximum of 30 days, and no single sample maximum shall exceed 580/100 ml as a single sample maximum, consistent with the Hopi WQS for full body contact and groundwater recharge. The monitoring frequency is once/week.

E. Total Residual Chlorine (TRC)

The facility proposes to use chlorination as part of the treatment process. The proposed permit requires a monthly TRC limit of 11 μg/l as a simple sample maximum, which is the Hopi Water Quality Standards for aquatic and wildlife (warm water habitat use) for support and propagation of animals, plants, or other organisms. The monitoring frequency is once/month.

F. Total Dissolved Solids (TDS)

The proposed permit establishes a maximum of 500mg/l for TDS, which is the Hopi Water Quality Standards for aquatic and wildlife (warm water habitat use) for support and propagation of animals, plants, or other organisms. Both the plant effluent (Outfall Number 001) and the intake water supply shall be sampled for TDS. The incremental increase is the difference between the two sample analyses. The effluent value, intake water supply value, and incremental increase value shall be reported. The monitoring frequency is once/month.

G. Dissolved Oxygen (DO)

The proposed permit requires a minimum of 6 mg/l dissolved oxygen, which is the Hopi Water Quality Standards for aquatic and wildlife (warm water habitat use) for support and propagation of animals, plants, or other organisms. The monitored frequency is once/month.

H. Total Ammonia Nitrogen (NH_3-N)

The proposed permit establishes monitoring and reporting requirements for NH_3-N, consistent with the Hopi water quality criteria for aquatic and wildlife (warm water habitat use) for support and propagation of animals, plants, or other organisms. NH_3-N includes the ammonium ion ($NH+_4$) and free ammonia (NH_3). The criteria for ammonia are pH and temperature dependent, so pH and temperature field measurements must be taken at the same time and location as the water samples destined for the laboratory analysis of ammonia. The monitoring frequency is once per quarter.

I. pH

The proposed permit requires that effluent pH not fall below 6.5 or above 9.0 standard pH units, consistent with the Hopi WQS for aquatic and wildlife (warm water habitat use) for support and propagation of animals, plants, or other organisms. The monitoring frequency is once/month.

J. Temperature

The proposed permit establishes a monitoring requirement for temperature, consistent with the Hopi WQS for aquatic and wildlife (warm water habitat use) for support and propagation of

animals, plants, or other organisms. In addition, temperature and pH measurements must be conducted concurrently with measurements for ammonia. The monitoring frequency is once/month.

K. Priority Pollutant Scan

The proposed permit establishes a monitoring requirement for the full list of priority pollutants as listed in the Code of Federal Regulations (CFR) at 40 CFR Part 423, Appendix A. Should the results of the first test reveal levels below EPA's National Water Quality Criteria for priority pollutants, monitoring will no longer be required of the permittee.

VII. Reporting

The proposed permit requires discharge data obtained during the previous three months to be summarized on monthly discharge monitoring report (DMR) forms and reported quarterly. If there is no discharge for the month, report "C" in the No Discharge box on the DMR form for that month. These reports are due January 28, April 28, July 28, and October 28 of each year. Signed copies of these, and all other reports required herein, shall be submitted to the EPA Regional Administrator at:

U. S. Environmental Protection Agency, Region 9
DMR/NPDES, Mailcode: WTR-7
75 Hawthorne Street
San Francisco, CA 94105

VIII. General Standards

The proposed permit sets general standards that are narrative water quality standards contained in the Hopi Water Quality Standards. These general standards are set forth in Section B. General Discharge Specifications of the permit.

IX. Permit Reopener

At this time, based on the permit application and type of discharge, there is no reasonable potential to cause or contribute to any excursion above water quality standards, hence no additional effluent water quality-based limits are being proposed. Should any monitoring indicate that the discharge causes, has the reasonable potential to cause, or contributes to excursions above water quality criteria, the permit may be reopened for the imposition of water quality-based limits and/or whole effluent toxicity limits. The proposed permit may be modified, in accordance with the requirements set forth at 40 CFR 122 and 124, to include conditions or limits to address demonstrated effluent toxicity based on newly available information, or to implement any new EPA-approved Tribal water quality standards.

X. Biosolids Requirements

The permittee shall submit a report 60 days prior to disposal of biosolids. The report shall discuss the quantity of biosolids produced, the treatment applied to biosolids including process parameters, disposal methods, and, if land applied, analyses for Arsenic, Cadmium, Chromium, Copper, Lead, Mercury, Molybdenum, Nickel, Zinc, and Selenium, and organic-N, ammonium-N, and nitrate-N, all expressed in mg/kg biosolids on a 100% dry weight basis. The permittee shall comply with all standards for biosolids use and disposal at Section 405(d) of the CWA, and 40 CFR Parts 257, 258 and 503.

XI. Threatened and Endangered Species and Critical Habitat

A. Background:

Section 7 of the Endangered Species Act (ESA) of 1973 requires Federal agencies such as EPA to ensure, in consultation with the U.S. Fish and Wildlife Service (FWS), that any actions authorized, funded or carried out by the Agency are not likely to jeopardize the continued existence of any Federally- listed endangered or threatened species or adversely modify or destroy critical habitat of such species. Since the issuance of NPDES permits by EPA is a Federal action, consideration of a permitted discharge and its effect on any listed species is appropriate.

The proposed NPDES permit authorizes the discharge of municipal wastewater into Moenkopi Wash, a tributary to the Little Colorado, a water of the United States. The proposed permit contains provisions for monitoring conventional and nonconventional pollutants in compliance with the Hopi Water Quality standards, to ensure an appropriate quality of water discharged by the facility. A reopener clause has been included should new information become available to indicate that the requirements of the permit need to be changed.

A biological evaluation prepared by the Hopi Tribe's Department of Natural Resources – Wildlife & Ecosystems Management Program for the proposed UVM facility in September 2004 found that no federally listed T&E species for Coconino County, Arizona were present nor was there critical habitat for such species.

B. EPA's Finding:

This permit authorizes the discharge of treated wastewater in conformance with the federal secondary treatment regulations and the Hopi Tribe Water Quality Standards. These standards are applied in the permit both as numeric and narrative limits. Therefore, since the standards themselves are designed to protect aquatic species, including threatened and endangered species, any discharge in compliance with these standards should not adversely impact any threatened and endangered species. Furthermore, the water course into which the effluent is discharged is an ephemeral river bed, which without the discharge of effluent would be dry. For the majority of the year, the discharge never reaches a perennial stream capable of supporting aquatic habitat.

EPA has determined that due to the low quantity and the intermittent nature of the discharge, effluent released in compliance with this permit will have "No Effect" on any Federally-listed threatened or endangered species or its critical habitat. No requirements specific to the protection of endangered species are proposed in the permit.

XII. Information and Copying

The Administrative Record, which contains the draft NPDES permit, the fact sheet, comments received, and other relevant documents, is available for review and may be obtained by calling or writing to the above address.

All comments or objections received within thirty (30) days from the date of the Public Notice, will be retained and considered in the formulation of the final determination regarding the permit issuance.

XIII. Administrative Information -- Public Notice, Public Comments, and Requests for Public Hearings

In accordance with 40 CFR 124.10, public notice shall be given by the U.S. EPA Director that a draft NPDES permit has been prepared by mailing a copy of the notice to the permit applicant and other Federal and State agencies, and through publication of a notice in a daily or weekly newspaper within the area affected by the facility. A copy of this public notice is available on EPA website at http://www.epa.gov/region09/water/npdes/pubnotices.html. The public notice shall allow at least 30 days for public comment on the draft permit.

In accordance with 40 CFR 124.11 and 12, during the public comment period, any interested person may submit written comments on the draft permit, and may request a public hearing if no hearing has already been scheduled. A request for public hearing shall be in writing and shall state the nature of the issues proposed to be raised in the hearing. In accordance with 40 CFR 124.13, all persons must raise all reasonably ascertainable issues and submit all reasonably available arguments supporting their position within thirty (30) days from the date of the Public Notice. Comments may be submitted either in person or mailed to:

U.S. Environmental Protection Agency, Region IX
CWA Standards and Permits Office (WTR-5)
Attn: Linh Tran
75 Hawthorne Street
San Francisco, CA 94105
Telephone: (415) 972-3511

Interested persons may obtain further information, including copies of the draft permit, fact sheet/statement of basis, and the permit application, by contacting Linh Tran (WTR-5) at the U.S. EPA address, above. Copies of the administrative record (other than those which U.S. EPA maintains as confidential) are available for public inspection between 8:00 a.m. and 4:30 p.m., Monday through Friday (excluding federal holidays).

In accordance with 40 CFR 124.12, the U.S. EPA Director shall hold a public hearing when she finds, on the basis of requests, a significant degree of public interest in the draft permit. The Director may also hold a public hearing when, for instance, such a hearing might clarify one or more issues involved in the permit decision. Public notice of such hearing shall be given as specified in 40 CFR 124.10.